

Appl. No. 10/782,655
Response to Final Office Action of January 9, 2006

Response under 37 CFR §1.116 expedited procedure.
Examining Group: 3651 (MPEP 714.13)

This listing of claims will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS

1. (original) A self-closing prestressed tubular belt with a longitudinal joint,
5 comprising:
 - a first layer having tension forces that are variable along its width; and
 - a second layer that is attached to the first layer having compression forces that are variable along its width, so that the belt will curl around an axis defined by a length of the belt with a predetermined shape and a predetermined force at the longitudinal joint.10
2. (original) The tubular belt according to claim 1, wherein:
 - the first layer is an inner elastic layer having an unstressed width that is less than its width in the tubular belt; and
 - 15 the second layer is an outer elastic layer having an unstressed width that is greater than its width in the tubular belt.
3. (original) The tubular belt according to claim 1, wherein the first layer comprises a central portion having tension forces that are variable along its width, and a peripheral portion having no tension forces.
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4. (original) The tubular belt according to claim 1, wherein the first layer has tension forces that are stepwise variable along its width in step regions, the tension forces in any step region being constant, and the tension forces in adjacent step regions are different from one another.
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5. (original) The tubular belt according to claim 1, wherein the first layer comprises one or more attached anchor strips that are configured to be in a force-holding relationship to a tool.

5 6. (previously presented) A self-closing prestressed tubular belt with a longitudinal joint, comprising:

a longitudinal axis that defines a longest dimension of the belt and is parallel with a direction of motion when the belt is used;

10 a transverse axis that defines a belt width that is perpendicular to the longitudinal axis when the belt is flattened, the belt having outer edges at the extremes of the transverse axis and having a central portion that is in between the outer edges but does not include the outer edges; and

15 a height axis that defines a belt thickness that is perpendicular to the longitudinal axis and the transverse axis;

a first layer that is prestressed; and

20 a second layer having a depression solely in the central portion and along the longitudinal axis, the depression reducing the belt thickness along the height axis that is permanently filled with the first prestressed layer.

7. (previously presented) A self-closing prestressed tubular belt with a longitudinal joint, comprising:

25 a longitudinal axis that defines a longest dimension of the belt and is parallel with a direction of motion when the belt is used;

a transverse axis that defines a belt width that is perpendicular to the longitudinal axis when the belt is flattened, the belt having outer edges at the extremes of the transverse axis and having a central

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portion that is in between the outer edges but does not include the outer edges; and

a height axis that defines a belt thickness that is perpendicular to the longitudinal axis and the transverse axis;

5 a first layer that is prestressed; and

a second layer, wherein the first layer is joined to the second layer only in the central region so that the central region of the two joined layers is thicker than either the first or second layer alone.

10 8. (previously presented) A self-closing prestressed tubular belt with a longitudinal joint, comprising:

a longitudinal axis that defines a longest dimension of the belt and is parallel with a direction of motion when the belt is used;

15 a transverse axis that defines a belt width that is perpendicular to the longitudinal axis when the belt is flattened, the belt having outer edges at the extremes of the transverse axis and having a central portion that is in between the outer edges but does not include the outer edges; and

20 a height axis that defines a belt thickness that is perpendicular to the longitudinal axis and the transverse axis;

25 a split zone on a lower portion of the belt when it is in an opened flattened state, wherein the belt is divided into one or more flaps along a dividing plane that is defined by the longitudinal axis and the transverse axis, wherein a plane passing through a proximate edge of the one or more flaps attached to the belt and an opposite distal edge of the one or more flaps is parallel to the dividing plane.

9. (previously presented) A self-closing prestressed tubular belt with a longitudinal joint, comprising:

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a split zone on a lower portion of the belt wherein the belt is divided into one or more flaps along a dividing plane parallel to a surface of the belt;

- 5 wherein the flaps are located on a bottom portion of the belt, the tubular belt further comprising an additional belt component used to fill a gap between edges of the flaps, the gap being created by prestressing of the belt in a direction parallel to a plane of the belt.

- 10 10. (currently amended) A self-closing prestressed tubular belt with a longitudinal joint, the longitudinal joint defined by a joint interlock having frictionally or interferentially contacting surfaces of first and second belt edges contacted and compressed by a force of adjacent prestressed belt material exerted in a direction perpendicular to a radius of the belt that passes through a cross-sectional belt centroid and a point on the contacting surfaces. the force
15 sufficient to create wherein a bending stiffness of the belt in a plane lying through the joint an interlock of the joint and a centroid of a section of the belt that is equivalent to a similarly constructed same tubular belt having no longitudinal joint.

- 20 11. (currently amended) A self-closing prestressed tubular belt with a longitudinal joint, the longitudinal joint defined by a joint interlock having frictionally or interferentially contacting surfaces of first and second belt edges contacted and compressed by a force of adjacent prestressed belt material exerted in a direction perpendicular to a radius of the belt that passes through a
25 cross-sectional belt centroid and a point on the contacting surfaces. thereby the belt comprising means permitting a bending of the belt in an operable condition along its route, the contacting and compression forces maintaining the belt from structural collapse due to forces imparted by the route having a curvature radius of less than three hundred times a diameter of the belt.

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12 - 26. (canceled).

27. (previously presented) The self-closing prestressed tubular belt according to
5 claim 11, wherein the route has a curvature radius of less than fifty times the
diameter of the belt.

28. (previously presented) The self-closing prestressed tubular belt according
to claim 11, wherein the route has a curvature radius of less than ten times the
10 diameter of the belt.